**About Booleans**

Booleans in C# are represented by the bool type, which values can be either true or false.

C# supports four **[boolean operators](https://docs.microsoft.com/en-us/dotnet/csharp/language-reference/operators/boolean-logical-operators" \t "https://exercism.org/tracks/csharp/concepts/_blank)**: ! (NOT), && (AND), || (OR), and ^ (XOR). The && and || operators use *short-circuit evaluation*, which means that the right-hand side of the operator is only evaluated when needed.

*true || false // => true*

*true && false // => false*

*true ^ false // => true*

*true ^ true // => false*

The three boolean operators each have a different ***[operator precedence](https://docs.microsoft.com/en-us/dotnet/csharp/language-reference/operators/boolean-logical-operators" \l "operator-precedence" \t "https://exercism.org/tracks/csharp/concepts/_blank)***. As a consequence, they are evaluated in this order: not first, && second, ^ third, and finally ||. If you want to 'escape' these rules, you can enclose a boolean expression in parentheses (()), as the parentheses have an even higher operator precedence.

*!true && false // => false*

*!(true && false) // => true*